



Urban Drainage and Flood Control District Cooperating Technical Partners Mapping Activity Statement

Mapping Activity Statement No. 4 – Hydrologic and Hydraulic Review for Letters of Map Change

In accordance with the Memorandum of Agreement dated May 17, 1999, between the Urban Drainage and Flood Control District (UDFCD) and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement No. 4 is as follows:

- 1. Objective and Scope:** The objective of this Mapping Activity is to have UDFCD assume the responsibility of the FEMA Flood Map Production Coordination Contractor (MCC) with regard to the evaluation of all requests for Conditional Letters of Map Revision (CLOMRs) and Letters of Map Revision (LOMRs) for the 32 communities within the UDFCD that are participating in the National Flood Insurance Program (NFIP). UDFCD will process these conditional and final map revision requests in accordance with the provisions of Part 65 of the NFIP regulations (44 CFR Part 65). Based on the results of the UDFCD review, FEMA will issue a determination regarding the request. For proposed projects, FEMA will issue CLOMRs in accordance with Section 65.8 of the NFIP regulations (44 CFR 65.8). For existing or "as-built" projects, FEMA will issue LOMRs or will physically revise and reissue the affected map panels following Physical Map Revision processes in accordance with Section 65.9 of the NFIP regulations (44 CFR 65.9), as appropriate.
- 2. Period of Performance:** The hydrologic and hydraulic (H&H) reviews under this Mapping Activity Statement will begin on March 5, 2002, and continue through June 30, 2002. This pilot Mapping Activity may be terminated at the option of FEMA or UDFCD in accordance with the provisions of the Memorandum of Agreement dated May 17, 1999. FEMA and UDFCD will review the activities under pilot Agreement at the end of the performance period.
- 3. Funding/Cost-Sharing:**

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- 4. Standards:** The following documents and standards are relevant to this Mapping Activity:
 - UDFCD shall comply with the *Guidelines and Specifications for Flood Map Production Coordination Contractors* (Final Draft, February 17, 1999), which is available from the FEMA Flood Hazard Mapping website at: http://www.fema.gov/mit/tsd/DL_FMPCC.htm.

- Detailed H&H analyses will follow the standards set forth in Part 65 of the NFIP regulations, in particular the following sections:
 - Section 65.2 Definitions
 - Section 65.5 Revision to special hazard area boundaries with no change to base flood elevation determinations
 - Section 65.6 Revision of base flood elevations determinations
 - Section 65.7 Floodway revisions
 - Section 65.8 Review of proposed projects
 - Section 65.10 Mapping of areas protected by levee systems
 - Section 65.12 Revision to flood insurance rate maps to reflect base flood elevation changes caused by proposed encroachments
 - Section 65.13 Mapping and map revisions for areas subject to alluvial fan flooding
 - Section 65.14 Remapping of areas for which local flood protection systems no longer provide base flood protection
- All projects, "as-built" or proposed, shall comply with all applicable criteria set forth in 44 CFR 60, which outlines floodplain management regulations for NFIP participation.
- All requests shall comply with requirements set forth in the current version of *Revisions To National Flood Insurance Program Maps: Application/Certification Forms and Instructions For Conditional Letters of Map Revision, Letters of Map Revision, and Physical Map Revisions*, MT-2 form 81-89 Series), available from the FEMA Flood Hazard Mapping website at http://www.fema.gov/mit/tsd/dl_mt-2.htm.
- All requests shall include a completed copy of the MT-2 application/certification, or comparable, forms.
- All revision requests shall comply with FEMA 37, *Flood Insurance Study Guidelines and Specifications for Study Contractors*, which is available from the FEMA website at http://www.fema.gov/mit/tsd/dl_scg.htm.
- Base (1-percent-annual-chance) flood discharges cannot be revised as a result of the use of alternative methodology or data for computing discharges, unless the change is shown to be statistically significant as per 44 CFR 65.6(a)(5).
- The hydraulic models shall be completed in the various "layers" described in MT-2 Form No. 4, "Riverine Hydraulic Analysis." This "layering" approach allows impacts of projects on water-surface elevations (WSELs) to be isolated from impacts resulting from using more detailed data (e.g., additional cross sections).
- The following shall apply for determining compliance with Paragraph 60.3(c)(10) or Paragraph 60.3(d)(3) of the NFIP regulations:
 - Proposed projects - The "post-project conditions" model will be compared to the "existing conditions" or "pre-project conditions" model.
 - "As-built" projects - The "revised conditions" or "post-project conditions" model will be compared to the "pre-project conditions" model.
 - Existing-conditions requests - The "existing conditions" model will be compared to the "corrected effective" model.
- For flooding sources studied by approximate methods and designated as Zone A, the provisions of Paragraph 60.3(c)(10) of the NFIP regulations shall apply (no more than a 1.00 foot increase in the WSEL). If the community proposes to allow a project that will result in an increase in WSELs greater than those allowed by Paragraph 60.3(c)(10) or Paragraph 60.3(d)(3), the project must comply with Section 65.10 of the NFIP regulations (44 CFR 65.10).

- Computer models used for H&H analyses must meet the requirements of Paragraph 65.6(a)(6) of the NFIP regulations and be on FEMA's *Numerical Models Accepted by FEMA for NFIP Usage*, which is available at http://www.fema.gov/mit/tsd/en_modl.htm.
- Hydraulic analyses must be performed using the same computer model used to develop the Base Flood Elevations (BFEs) shown on the effective Flood Insurance Rate Map (FIRM). An alternative model shall be used only if the basis of the request is the use of an alternative hydraulic methodology or it can be demonstrated that the data of the original hydraulic computer model is unavailable or its use is inappropriate, as set forth in 44 CFR 65.6(a)(8).
- Flood elevations and floodplain and floodway boundaries must tie in to effective information in accordance with 44 CFR 65.6(a)(2).
- Approximate Zone A area analyses must follow the standards set forth in FEMA 265, *Managing Floodplain Development in Approximate Zone A Areas* (January 1995), which is available from the FEMA website at http://www.fema.gov/mit/tsd/dl_zonea.htm.
- Annotated NFIP maps and water-surface elevation profiles for LOMRs and map revisions shall follow standards set forth in *Guidelines and Specifications for Flood Map Production Coordination Contractors: Appendix B, Specifications for Preparing Maps and Graphics*. A copy of the standards can be requested by e-mail at mapmod@fema.gov. FEMA's standard digital file templates for preparing maps and graphics to meet the above specifications can be obtained from the FEMA MCC.
- Public notification of intended revisions to the regulatory floodway shall be completed in accordance with Paragraph 65.7(b) of the NFIP regulations.

5. Products and Schedule: The following outlines the steps and timelines to be followed in reviewing, processing, and tracking cases assigned under this Mapping Activity Statement:

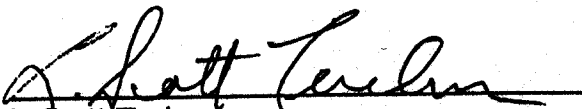
- Both FEMA and UDFCD will receive copies of map revision requests (CLOMRs and LOMRs) from requestors within UDFCD. The review and processing fee for these cases will be received by FEMA under current payment procedures (check or money order in U.S. funds made payable to the National Flood Insurance Program or credit card payment).
- Upon receipt of a case, FEMA (or the MCC) will complete a "Fact Sheet" that outlines the details of each particular case (i.e., communities impacted by revision, flooding sources, project identifier) for its records.
- The MCC will enter the information into its Management Information System (MIS) and generate a case number for the case within 24 hours. The MIS will be used to track the cases that are being reviewed and processed by UDFCD. Upon generating the case number, the MCC will forward the Fact Sheet to UDFCD via e-mail if possible.
- The UDFCD will use the unique case number on all correspondence generated by UDFCD regarding that particular case. After receiving the case, UDFCD is responsible for all activities involved with processing the case.
- Upon receiving a case, UDFCD will review the submittal for technical and regulatory adequacy, required information, application/certification forms, H&H modeling, and supporting data and documentation. UDFCD will identify previous letter or map actions for the affected map panel(s); determine if any pending request for the same area may affect the submittal; and contact the requester for missing information or additional data required to ensure that the data are scientifically sound and technically accurate (see Section 8, Technical Assistance and Resources). These activities are a part of the "pre-acceptance review" of the case, which will be completed within 5 working days of

- receiving the case.
- UDFCD will prepare an acknowledgment letter to inform the requester about the additional data necessary to complete the processing of the case or to inform the requester that all data have been received. UDFCD shall mail the acknowledgment letter within 5 days of receiving the case.
 - If additional data are requested and the required data are not received within 90 days, UDFCD shall suspend processing of the case and notify the requester in writing.
 - All subsequent actions associated with revision requests shall be in accordance with Parts 60, 65, and 67 of the NFIP regulations and Section 2 of FEMA's *Document Control Procedures Manual* and will be completed by UDFCD.
 - The statutory timeframe for a determination on a map revision under Part 65 is 90 days; however, UDFCD will adhere to the same 60-day schedule for processing cases as the MCC does. If additional time is required, due to complexities of the particular case, UDFCD will prepare an interim letter to explain that more time is needed.
 - UDFCD will prepare draft determination letters and map attachments for final review by FEMA within 60 days of receiving all required data. At the time that UDFCD submits these determination letters and map attachments to FEMA, UDFCD also will submit a complete file containing the case correspondence, backup material, engineering review notes, a case summary, and any other pertinent information. A detailed list of the required products is as follows:
 1. A copy of the appropriate MT-2, or comparable, forms and copies of all supporting data and documentation supporting the revision request;
 2. A copy of the "H&H Review Information" form, signed by a UDFCD official; summarizing the case background and review and final recommendation;
 3. Annotated FIRM(s) showing the effective and revised 1-percent-annual-chance (100-year) and 0.2-percent-annual-chance (500-year) floodplain boundaries and/or regulatory floodway boundaries as appropriate;
 4. Topographic maps of the revision area that meet the requirements outlined in MT-2 Form No. 5, *Riverine/Coastal Mapping*;
 5. A map of the watershed showing the location of the revision;
 6. Digital profiles of the 10-percent-annual-chance (10-year), 2-percent-annual-chance (50-year), 1-percent-annual-chance, and 0.2-percent-annual-chance water-surface elevations representing existing conditions, if applicable;
 7. Revised Floodway Data Table(s), if applicable;
 8. Revised Summary of Discharges Table(s), if applicable;
 9. Digital copies of all H&H modeling (input and output files);
 10. Draft determination letter, based on the template letter types provided by FEMA to UDFCD; and
 11. Individual property notification if a request for a revision to the FIRM involves an increase in the BFE, the 1-percent-annual-chance floodplain, and/or the regulatory floodway. An increase is defined by the comparison of the effective Flood Insurance Study (FIS) and FIRM data, including profiles, and the requested revised condition. For the 1% annual chance floodplain and floodway, an increase is the addition of the 1% annual chance floodplain and/or floodway into an area not so designated on the effective FIRM(s). Only those property owners impacted by the increase need to be notified. The notification should explain the extent and reason for the increase and its impact, if any, on the property owner.

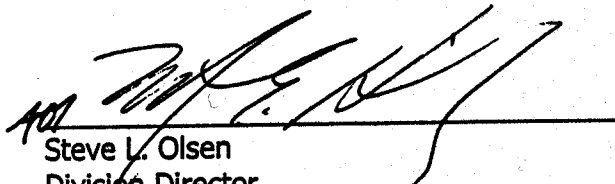
- The final determination letters for the CLOMR and LOMR cases will be reviewed and signed by the FEMA Project Engineer for Region VIII. FEMA will retain the responsibility for preparing newspaper and *Federal Register* announcements regarding changes in BFEs associated with these cases.
 - All appeals and protests in reference to these cases will be reviewed by UDFCD in accordance with Part 67 of the NFIP regulations (44 CFR Part 67). UDFCD will provide FEMA with a recommendation for resolving each appeal or protest. UDFCD will coordinate with the FEMA Project Officer cited in Section 11 of this Mapping Activity Statement to resolve the appeal or protest.
 - UDFCD will coordinate with the FEMA Project Officer regarding potential violations of the NFIP regulations.
 - UDFCD will provide FEMA with support in the processing of congressional responses and other special responses related to CLOMR and LOMR cases reviewed by UDFCD under this Mapping Activity Statement.
- 6. Certification:** The definitions of certification in Paragraph 65.2(b) of the NFIP regulations (44 CFR 65.2(b)) for certification of analyses, "as-built" plans, and structural works apply to this Mapping Activity. Specifically:
- If fill is to be considered in the mapping to raise land areas to or above the 1-percent-annual-chance flood elevation, certification of the fill will be provided in accordance with 44 CFR 65.5(a)(6) by the community's NFIP permit official, a Registered Professional Engineer, or a Licensed Land Surveyor.
 - Topographic information will be certified by a Registered Professional Engineer or Licensed Land Surveyor in accordance with 44 CFR 65.5(c).
 - All analyses and data submitted in support of a revision to BFEs will be certified by a Registered Professional Engineer or Licensed Land Surveyor as appropriate in accordance with 44 CFR 65.6(f).
 - All analyses submitted in support a revision to the regulatory floodway will be certified by a Registered Professional Engineer in accordance with 44 CFR 65.7(d).
 - Any levee systems to be credited with flood protection as discussed in Section 4 of this Mapping Activity Statement will be certified in accordance with 44 CFR 65.10(e).
 - Data submitted to support flood-control measures that provide protection from the 1-percent-annual-chance flood in an area subject to alluvial fan flooding will be certified by a Registered Professional Engineer in accordance with 44 CFR 65.13(f).
- 7. Technical Assistance and Resources:**
- From the MCC, UDFCD may obtain copies of FEMA-issued CLOMRs, LOMRs, Letters of Map Amendment, and Letters of Map Revision Based on Fill; archived engineering backup data; and data collected as part of the FEMA Mapping Needs Assessment Process.
 - The MCC may be contacted by telephone at (703) 960-8800 or by facsimile at (703) 960-9125.
 - General technical and programmatic information not cited in this Mapping Activity Statement also can be downloaded from the FEMA website (www.fema.gov/mit/tsd/).
 - Additional guidance for H&H analyses and floodplain mapping can be found in FEMA 37.

- UDFCD may obtain the map revision production tools, software, automated Quality Assurance/Quality Control (QA/QC) tools, etc., that FEMA has developed for its own use. For example, copies of FEMA's rule-based engineering software packages, such as CHECK-RAS for evaluating HEC-2/HEC-RAS models and RASLOT for automatically plotting flood profiles, may be obtained through the MCC.
 - Specific technical and programmatic support may be provided by the MCC; such assistance should be requested through the FEMA Project Officer, specified in Section 11 of this Mapping Activity Statement and may include:
 1. Technical assistance in the form of training and/or technical guidance regarding the review and processing of revision cases;
 2. Training on using the MIS; and
 3. Training on resolving protests and appeals.
8. **Subcontractors:** UDFCD intends to use a consulting engineering firm located in the Denver, Colorado, area that has demonstrated the ability to perform the activities, which are the subject of this Agreement. For any requests for which the consulting firm was involved in the development of analyses, site or project plans, surveys, or otherwise constitute an organizational conflict for the firm, the UDFCD staff or the MCC will perform the necessary review. Procurement of the consultant will comply with the requirements of 44 CFR 13.36.
9. **Reporting:** UDFCD will report to FEMA upon receipt of revision cases. UDFCD shall send copies of all correspondence between UDFCD and the requester, including acknowledgment letters, additional data letters, phone call reports, e-mail correspondence, and any other documents, so that the appropriate information can be entered into the MIS by the MCC. Completed cases will be packaged in accordance with FEMA's guidelines, as explained in Appendix G, "Procedures for Storage of Revision Data," of *Guidelines and Specifications for Flood Map Production Coordination Contractors*. UDFCD shall retain a complete case file for each case in an archive, and a complete case file shall be transmitted to FEMA for archiving in the FEMA Project Library, which is maintained for FEMA by the MCC.
10. **Quality Assurance/Quality Control Procedures:** UDFCD shall establish procedures for quality assurance/quality control. All products are subject to periodic auditing by FEMA.
11. **Points of Contact:** The FEMA Project Officer will be Mike Grimm and the UDFCD Project Manager will be Bill DeGroot, or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities.

Each party has caused this Task Agreement to be executed by its duly authorized representatives on the date mentioned above.


L. Scott Tucker
Executive Director
Urban Drainage and Flood Control District

3/14/02
Date


Steve L. Olsen
Division Director,
Federal Insurance and Mitigation Division
Federal Emergency Management Agency

3/5/02
Date